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Before the
Federal Communications Commission
Washington, D.C. 20554

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APR 22 2005

Federal Communications Commission
Office of Secretary

In re Petition of:)
)
Remington Arms Company, Inc.)
) File No.
)
For Waiver of Sections 15.245,)
15.247(b) and 15.247(e) of the Rules)
and Regulations)

TO: Marlene H. Dorch, Secretary
For transmission to Ed Thomas, Chief
Office of Engineering and Technology

REQUESTED WAIVER

1. Remington Arms Company, Law Enforcement Technologies Division, by its attorneys, hereby submits its request for waiver of Sections 15.245, 15.247(b) and (e) of the Commission's rules to permit the deployment of a new device it seeks to introduce to the US law enforcement, counter-terrorism and security community. This new device will be highly useful in combating crime and terrorism in the United States. The Remington Eyeball R1 is a unique system that provides live video and audio surveillance of locations that otherwise could not be directly observed. The Eyeball R1 System reduces the danger to life while gathering information in small hazardous and confined areas, such as buildings, caves, tunnels and alleys, making it well-suited to counter-terrorism and law enforcement operations in urban, rural and wilderness areas. Demonstrations with first responder agencies have resulted in strong endorsement by law enforcement and emergency responding agencies¹

2. The device will operate at 2.4 GHz with 1000mW for transmitting the audio and video to the control point and at 902 – 928 MHz with emitted power of less than 1000 mW for the command and control data transmission. Both 902 – 928 MHz and the 2.4 GHz are popular ISM bands in use by a variety of low power, household and business devices. The AeroComm AC4490-1000 chip that will be employed for the 902 – 928 MHz transmitter is represented by its manufacturer to be certified and Part 15 compliant in its current configuration. Remington is relying on the certification already provided the AC4490-1000. The Eyeball configuration will employ an antenna approved for use with the AC4490-1000 or one that is equivalent and will comply with the requirements specified in the Commission's Public Notice, DA 00-1407².

¹ See excerpts from First Responders in Attachment A

² Part 15 Unlicensed Modular Transmitter Approval DA 00-1407, 15 FCC Rcd 25415, (June 26, 2000)

Therefore, Remington will rely on the certification of the original equipment manufacturer grantee, AeroComm.³ The specifications for the AC4490-1000 are available on the Aerocomm web site⁴. The transmission plan, however, does not conform to the power limitation at §15.249(a) of the Commission's rules. Therefore, a waiver of that rule is required for the production of this product.

3. The Remington Eyeball R1 is an analog device. However, were it a digital device, no waiver would be required. Accordingly, the waiver we request is that the power limit permitted for digital modulation contained in §15.247(b)(3) of the Commission's rules be applied to this device, notwithstanding that the Eyeball R1 operates in analog mode.

4. The requested waiver will not do violence to the basic principle of Part 15 operation; the requirement that unlicensed devices function in a non-interfering manner in the midst of licensed devices. Although the Eyeball R1 will exceed the applicable Part 15 limits for analog devices, it will not create significant interference. Furthermore, any such interference will be limited to the immediate area of emergency, temporary operations or to defined training areas and will serve the higher public interest objective of safety to life and homeland security. Moreover, the potential for disruption will be of limited duration and is unlikely to recur in the same area or location.

REMINGTON EYEBALL R1 DESCRIPTION

5. The Remington Eyeball R1 is an imaging device that will provide live color or black and white video of a 55-degree conical field of view. The imaging sensor can be thrown or tossed like a baseball from a distance to a remote or confined and potentially hazardous location to obtain real time video images of and sound from the surrounding perimeter. The device is intended for counter-terrorism and law enforcement operations in urban terrain applications as well as in police activities requiring observation and surveillance.

6. All intentional radiators operating under Part 15 of the Commission's rules must be certificated by the Commission pursuant to the procedures set forth in subpart J of part 2 of the Commission's rules. Remington will not be able to certify on FCC Form 731 that the Eyeball R1 meets the emission limits under Part 15, Section 245 of the Commission's rules.

WAIVER REQUEST AND JUSTIFICATION

7. Therefore, Remington requests that the Commission provide a waiver of the emission limits in 47 CFR 15.245(b) and 15.247(b)(3) to permit the manufacture and sale of the Eyeball R1. The unit will be tested and certified to comply with the other applicable sections of Part 15 including all other emission limits. The waiver is justified for the following reasons:

- The Eyeball R1 will be used in situations of extreme stress where the full attention of the immediate area will likely be devoted to the law enforcement operation in progress.

³ 47 CFR §2.929(b)

⁴ Located at <http://www.aerocomm.com/OEM/AC4490.htm>, last visited on April 22, 2005

- The important value of safety of life is paramount to transitory and temporary interference to Part 15 devices.
- The pole cameras and fiber optic systems used today require officers to get dangerously close to a potentially hostile situation.
- The potential for interference will rarely exceed the area of immediate concern to the law enforcement operation. Even under worst-case scenarios, the typical area affected for other Part 15 devices would be limited to the same city block, or in an urban setting, probably the same building. Under many situations envisioned for the Eyeball R1, that area would already be evacuated or under police control.
- The potential for interference generally will be for a very short duration. In constant-on configuration, the Eyeball R1 has an estimated useful battery life of only about two hours.
- The video transmission in the 2.4 GHz ISM will be at 1,000 mW and will have a 6 dB bandwidth of approximately 2 MHz. Part 15.247(b)(3) permits digital transmissions at powers up to 1,000 mW in that same band provided that the 6 dB bandwidth of the signal exceeds 500 kHz (47 CFR 15.247(a)(2)). The video transmissions from the Eyeball R1 can be expected to generate interference that is roughly comparable to such permitted digital devices. That is, the Eyeball R1 video transmissions can be expected to create approximately the same interference as devices currently permitted under the rules without waiver.

8. Section 15.247(e) of the Rules sets forth a spectral density limit for a digital intentional radiator. Specifically, such emitters are limited to no more than 8dBm (6.3 mW) in any 3 kHz band during any time interval of continuous transmission. The relevant power level is to be determined in accordance with subsection (b) of 15.247. Since Remington is requesting a waiver of 15.247(b)(3) to permit analog operation under this section at the power levels permitted to digital devices, as a corollary, a request must also be made for waiver of the application of the spectral density requirement in subsection (e) to the analog modulation that will be created by the Eyeball and Remington makes that request.

9. Section 1.925 of the Commission's rules provides that the Commission may waive its rules if the petitioner has shown:

The underlying purpose of the rule(s) would not be served or would be frustrated by application to the instant case, and that a grant of the requested waiver would be in the public interest; or

In view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome or contrary to the public interest, or the applicant has no reasonable alternative.

47 C.F.R. § 1.925(b)(3).

10. Remington believes that it has met this burden in the case of the Eyeball R1. This waiver will serve the higher public interest in saving life and combating terrorism, a significant underlying purpose of the Commission's mandate.⁵ The Commission has discretion to waive a rule "where particular facts would make strict compliance inconsistent with the public interest." Northeast Cellular Telephone, Co. L.P. v. FCC, 897 F.2d 1164, 1166 (D.C. Cir. 1990) ("Northeast"). See also WAIT Radio v. FCC, 1418 F.2d 1153, 1157 (D.C. Cir. 1969), rehearing denied, 459 F.2d 1203 (D.C. Cir. 1972), cert denied, 409 U.S. 1027 (hereinafter "WAIT"). The Commission may grant a waiver when the relief requested in that particular case "would not undermine the policy objective of the rule in question and would otherwise serve the public interest." WAIT, 418 F.2d at 1157; Dominion Video Satellite, Inc. Order and Authorization, 14 FCC Rcd 8182, 8185 (1999). A "[w]aiver is appropriate if special circumstances warrant a deviation from the general rule and such deviation would better serve the public interest than strict adherence to the general rule." Northeast, 897 F.2d at 1166. Thus, the Commission has significant flexibility in deciding whether to grant a waiver and each waiver must be considered based upon the circumstances unique to that case.

CONCLUSION

11. The Remington Eyeball R1 has all the characteristics requisite for waiver of the emission limits in 47 CFR 15.245(b), emission type in 15.247(b)(3) and for the waiver of the spectral density requirement in 15.247(e) to an analog device. It is essential that the Commission treat this request with expedited consideration, considering the potential for lifesaving applications and the ability to effectively counter various terrorist activities, including hostage taking and minimizing destruction that might occur in other standoffs.

⁵ This conclusion is supported by the language of Section 1 of the Communications Act, the purposes section.

For the purpose of . . . *the national defense, for the purpose of promoting safety of life and property* through the use of wire and radio communication, . . . there is hereby created . . . the "Federal Communications Commission," . . . which shall execute and enforce the provisions of this Act. (Emphasis Added)

Section 1, Communications Act of 1934 [47 USC §151], Purposes of Act


WHEREFORE, Remington requests that the FCC waive the application of 47 CFR 15.245(b,) 15.247(b)(3) and 15.247(e) to the Eyeball R1 and permit the Eyeball R1 to operate in analog mode with EIRP of up to 1 watt in the frequency range 903 – 928 MHz and 2400—2483.5 MHz.

Respectfully submitted,

**REMINGTON ARMS COMPANY, INC.
LAW ENFORCEMENT TECHNOLOGIES
DIVISION**

April 22, 2005

By:


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Attachment A
Letter to Julius Knapp

The Remington Eyeball R1 has been demonstrated to several law enforcement agencies to gauge their interest. Overwhelmingly, the response has been extremely positive. Below are excerpts from several of the responses.

ORANGE COUNTY SHERIFF'S OFFICE, ORLANDO FL

"Thank you for allowing me the opportunity to evaluate one of the best safety tools for SWAT use."

Categories of Use

1. SWAT Tactical Search of rooms and hallways, roofs
RF range required- within 100 feet.
2. SWAT Tactical Surveillance-Perimeter, door, rooms, stairwell, hallways and roof.
RF range required- within 300 feet.
3. Police Investigative Surveillances- For special investigative needs.
Close range surveillances with portability requirements.
RF range required 50 to 300+ feet.
Function- Grade (1 lowest, 10 highest)

Ball Unit

Camera

Resolution/day- 8

Notes: The video resolution is very good. The resolution is good with the IR and ambient light sources.

IR light (without) Resolution near total dark.- 6

IR light (with) - 9

Notes: The cameras ability to produce a picture with little light is good especially for a color camera. The resolution near and far is very good with the IR light source on.

Field of view- 10

Notes: For indoor searches, door and hallway monitoring, the camera height and with field of view is correct.

Zoom- 6

Notes: The digital zoom is good for a distant target, however would require a tilt capability if used in closer proximity to the target. This should be fine as is.

IR lights

Illumination of target area- 9

Notes: The IR illuminated the target area very well. The range of the light and its field of coverage are excellent considering the size of the light source.

Ball Physics for:**Throwing**

Size- 10

Weight- 10

Notes: The size and weight of the unit is excellent for throwing and packaging for transport by team members in pant utility pockets and other typical pouches.

Durability

On pavement- 10

Notes: We put the R-1 through the paces for a typical SWAT callout. The unit was thrown across lawns onto concrete at a high rate of speed and functioned flawlessly.

Several times the unit was thrown onto roofs, rolled off onto the concrete with out a malfunction. It rolled into a puddle and was partially underwater for 15 seconds, still performing perfect. The unit was thrown into a drywall wall extremely hard, it up righted on the floor and function perfectly. This unit is **durable**.

“We have spent some quality time with your product and see great potential, especially compared to other camera systems we have seen.”

CHICAGO POLICE DEPARTMENT, KENDALL COUNTY SHERIFF'S OFFICE

“Thanks for the use of the eyeball. I was hoping to use it on a real op but that did not happen. I was very impressed with your product and gave a very high recommendation to the Chicago Police Department, Kendall County Sheriff's Office and our agency.”

ORANGE COUNTY SHERIFF'S DEPARTMENT

“We are very impressed by the potential of this product and can see multiple uses for the bomb squad as well as SWAT and Hazardous Materials Teams. We hope to try your final product out as soon as it is available and would be interested in purchasing . . .”